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Reflections on the dynamics of teaching

[Skip to content](http://fnoschese.wordpress.com/2011/06/16/angry-birds-in-the-physics-classroom/#content) <http://fnoschese.wordpress.com/2011/06/16/angry-birds-in-the-physics-classroom/>

[](http://fnoschese.wordpress.com/)

[← Merry-Go-Round #anyqs](http://fnoschese.wordpress.com/2011/06/14/merry-go-round-anyqs/)

[Khan vs. Karplus: Elevator Edition →](http://fnoschese.wordpress.com/2011/06/22/khan-vs-karplus-elevator-edition/)

**Angry Birds in the Physics Classroom**

Posted on [June 16, 2011](http://fnoschese.wordpress.com/2011/06/16/angry-birds-in-the-physics-classroom/)

I recently blogged that you can now [play Angry Birds in your web browser](http://chrome.angrybirds.com/). This opens up all sorts of video analysis possibilities for physics lessons and assessment. Students can easily make their own videos or you can pre-record your own. Videos can be recorded using [Jing](http://www.techsmith.com/jing/), [Screencast-O-Matic](http://www.screencast-o-matic.com/), or [Camtasia Studio](http://www.techsmith.com/camtasia/). Analysis can be done in [Logger Pro](http://www.vernier.com/soft/lp.html) or [Tracker](http://www.cabrillo.edu/~dbrown/tracker/).

Here are some possible investigations to carry out (shared by **Michael Magnuson** on the WNYPTA email list):

**1. Make a reasonable estimate for the size of an angry bird, and determine the value of *g* in Angry Bird World. Why would the game designer want to have *g* be different than 9.8 m/s²?** *Download* [*Angry Birds video*](https://docs.google.com/leaf?id=0B4h2KfPMJ6ONMTA4NDc0ODEtNzE5MS00NjExLWI3MjUtZjNlOGVhZjQzOGU0&hl=en)*.*

**2. Does the blue angry bird conserve momentum during its split into three?** *Download* [*Red and Blue Birds video*](https://docs.google.com/leaf?id=0B4h2KfPMJ6ONMzA2NmQ5MGQtMDgzNi00YjkyLWIyZmUtMjc4ZWRmN2QxYWI0&hl=en)*.*

**3. Does the white bird conserve momentum when it drops its bomb? Why would the game designer want the white bird to drop its bomb the way that it does?** *Download* [*White Bird video*](https://docs.google.com/leaf?id=0B4h2KfPMJ6ONMTEyYWQwZDUtOTAxNC00NTBjLThmZTktYWY3MTY4NDBmY2I2&hl=en_US)*.*

**4. Describe in detail how the yellow bird changes velocity. You will need to analyze more than one flight path to answer this question.** *Download* [*Yellow Birds video*](https://docs.google.com/leaf?id=0B4h2KfPMJ6ONNGNjZTE4MGQtNzg5NC00YWQxLWIxYTMtZjU2NDk4ODc0ZDlj&hl=en)*.*

**5. Shoot an angry bird so that it bounces off one of the blocks. Determine the coefficient of restitution and the mass of the angry bird.** *Download* [*Red Birds and Falling Block video*](https://docs.google.com/leaf?id=0B4h2KfPMJ6ONNTE2YWI2NGUtOTNjMy00ZWJjLWFiZGEtYzkyMDY3ZDI5OTYw&hl=en)*.*

You can download each video using the links above or [get them all here](https://docs.google.com/leaf?id=0B4h2KfPMJ6ONMTgzYWZlNGItOTNhNi00MmMwLWJkOWMtNDRjODY4ZjEzZTIz&hl=en_US).

Other posts with ideas about how to use Angry Birds in physics class:

* **Rhett Allain’s** analysis of [The Physics of Angry Birds](http://www.wired.com/wiredscience/tag/angry-birds/).
* **John Burk’s** post [Introducing projectile motion using Angry Birds](https://quantumprogress.wordpress.com/2011/02/17/why-you-should-wait-to-teach-projectile-motion-part-2-introducing-projectile-motion-using-angry-birds/)
* **Peter Kupfer’s** post [Angry Birds and Physics](http://blog.peterkupfer.net/2011/03/05/angry-birds-physics/)

**How have you used (or will use) Angry Birds in the classroom?**

**UPDATE 12-28-2011:** Our class has been featured on CUNY-TV’s “Science and U!” Jump to 10:25 in the video below:

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